

US010198036B2

(12) United States Patent Wylie

(10) Patent No.: US 10,198,036 B2

(45) **Date of Patent:** *Feb. 5, 2019

(54) DOCKING STATION FOR TABLET DEVICE

(71) Applicant: **Mobile Tech, Inc.**, Lake Oswego, OR (US)

(72) Inventor: Hunter Wylie, Sherwood, OR (US)

(73) Assignee: MOBILE TECH, INC., Lake Oswego,

OR (US)

(*) Notice: Subject to any disclaimer, the term of this

patent is extended or adjusted under 35

U.S.C. 154(b) by 0 days.

This patent is subject to a terminal dis-

claimer.

(21) Appl. No.: 15/875,990

(22) Filed: **Jan. 19, 2018**

(65) Prior Publication Data

US 2018/0143665 A1 May 24, 2018

Related U.S. Application Data

- (63) Continuation of application No. 15/667,436, filed on Aug. 2, 2017, which is a continuation of application No. 14/097,171, filed on Dec. 4, 2013, now Pat. No. 9,760,116.
- (60) Provisional application No. 61/733,842, filed on Dec. 5, 2012.
- (51) Int. Cl. G06F 1/16 (2006.01)
- (52) **U.S. Cl.**CPC *G06F 1/1632* (2013.01); *G06F 1/1654* (2013.01)

(56) References Cited

U.S. PATENT DOCUMENTS

883,335	A	3/1908	O'Connor
3,444,547	A	5/1969	Surek
3,612,462	A 1	0/1971	Mooney et al.
3,780,909	$\mathbf{A} = 1$	2/1973	Callahan et al
D244,857	S	6/1977	Hayes
4,075,878	A	2/1978	Best
4,117,465	A	9/1978	Timblin
4,335,931	A	6/1982	Kinnear
4,354,613	$\mathbf{A} = 1$	0/1982	Desai et al.
4,384,688	A	5/1983	Smith
4,590,337	A	5/1986	Engelmore
4,714,184	$\mathbf{A} = 1$	2/1987	Young et al.
4,772,878	A	9/1988	Kane
		(Cont	inued)

FOREIGN PATENT DOCUMENTS

A T	506665 A1	10/2009
CA	2465692 A1	11/2004
	(Cont	inued)

OTHER PUBLICATIONS

U.S. Appl. No. 29/604,812: Filing Receipt, dated Nov. 27, 2017, 3 pages.

(Continued)

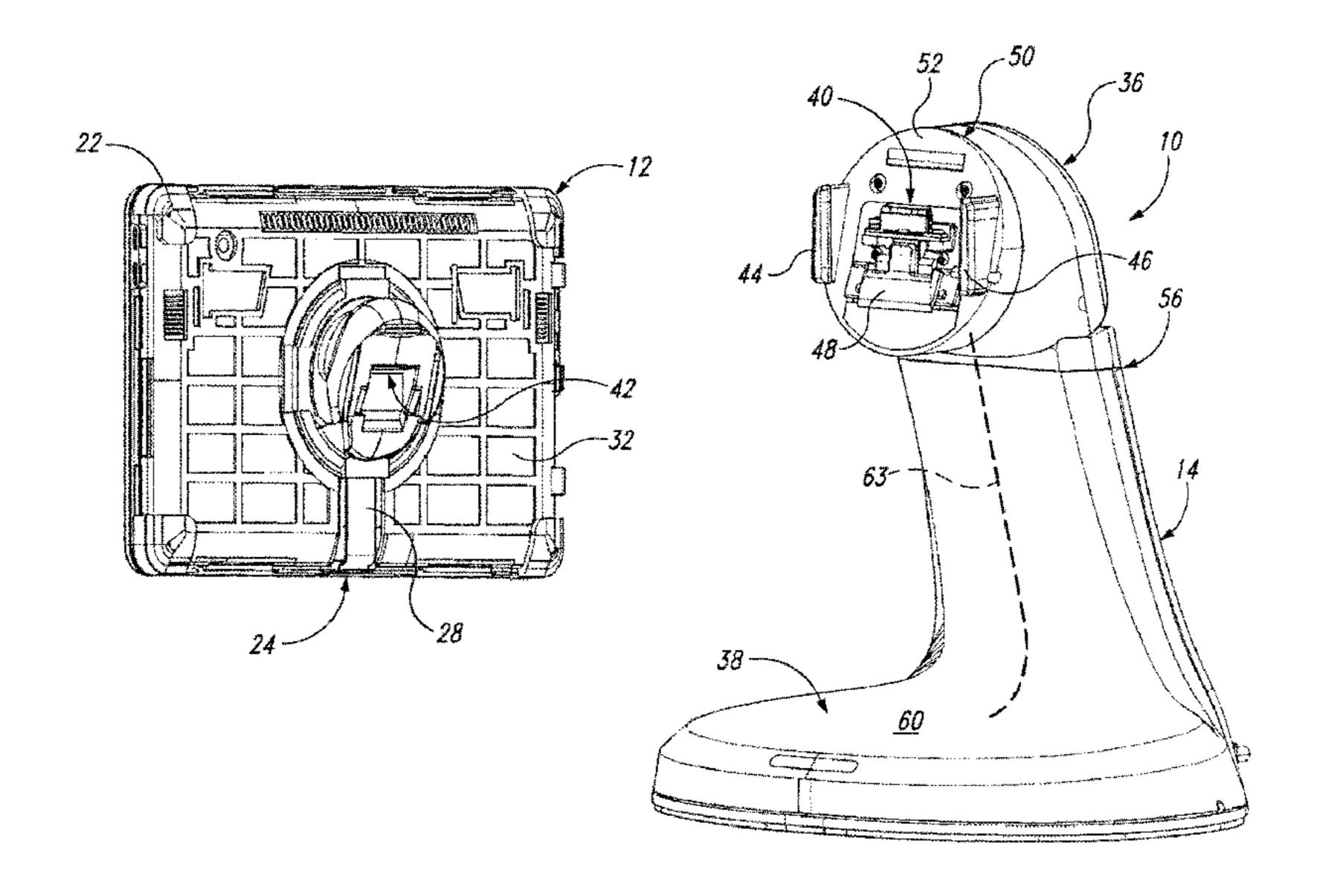
Primary Examiner — Adrian S Wilson

(74) Attorney, Agent, or Firm — Thompson Coburn LLP

(57) ABSTRACT

A docking station for a tablet device includes a security frame that is releasably connected to a pedestal. An upper head portion of the pedestal is rotatable through three degrees of freedom to allow for angular adjustment of the frame as it retains a tablet device. Electrical conductivity is maintained through the rotational connection.

30 Claims, 7 Drawing Sheets



US 10,198,036 B2 Page 2

(56)	Referer	ices Cited	7,052,296 B2*	5/2006	Yang G06F 1/1626 439/165
ZII	PATENT	DOCUMENTS	7,053,774 B2	5/2006	Sedon et al.
0.5.	17111111	DOCOMENTS	7,068,496 B2		Wong et al.
4 202 402 A	2/1000	Dlankonhura	7,081,822 B2		Leyden et al.
4,898,493 A 5,033,709 A	7/1990	Blankenburg	7,085,491 B2		Chiang
5,033,709 A 5,072,213 A	12/1991		7,101,187 B1		Deconinck et al.
, ,		Keifer et al.	, ,	11/2006	
5,176,465 A		Holsted	*		Marszalek et al.
, ,	2/1993		7,209,038 B1		Deconinck et al.
, ,	7/1993		D545,826 S		
5,230,010 A 5,246,183 A			7,287,652 B2		Scholen et al.
		Leman F16M 11/041	D563,444 S		Brickzin
3,430,792 A	7/1993		D566,590 S *		Stevens D10/74
5 457 745 A	10/1005	16/326 Wana	7,352,567 B2		Hotelling
5,457,745 A	10/1995		, ,		Belden, Jr. et al.
5,459,637 A		Ma et al.	, ,		Marszalek et al.
5,517,434 A 5,543,782 A		Hanson et al. Rothbaum et al.	· · · · · · · · · · · · · · · · · · ·		Marsilio et al.
5,570,267 A	10/1996		7,515,408 B2		
5,570,207 A 5,583,742 A			7,522,047 B2		
5,585,742 A 5,586,002 A			, ,	11/2009	
	3/1997		, ,		Belden, Jr. et al.
5,685,436 A	11/1997		7,650,230 B1		,
, ,		Hall F16C 11/10	7,652,873 B2		
3,731,370 A	3/1776	248/122.1	7,654,399 B2		
5 760 360 A *	6/1008	Meinel B60N 3/001	7,658,363 B2	2/2010	Meyer
3,709,309 A	0/1990		7,667,601 B2		Rabinowitz et al.
5 9 4 7 0 2 4 A	12/1009	108/45	7,669,816 B2	3/2010	Crain et al.
5,847,924 A	1/1998		7,684,185 B2	3/2010	Farrugia
·		Leyden et al.	7,688,205 B2	3/2010	Ott
D409,018 S 5,903,645 A		Deuschle	7,696,857 B2	4/2010	Kritt et al.
, ,	5/1999		7,708,240 B2 *	5/2010	Homer G06F 1/1601
5,923,528 A	7/1999				248/130
5,982,855 A 6,039,496 A	11/1999		7,710,266 B2	5/2010	Belden, Jr. et al.
6,062,518 A *		Etue B60R 11/0241	7,712,661 B2		Thomas
0,002,516 A	3/2000		7,724,135 B2	5/2010	Rapp et al.
D422 052 S	11/2000	Wornig1si et al	7,737,843 B2		Belden, Jr. et al.
/		Woznicki et al. Kovacik et al.	7,737,844 B2	6/2010	Scott et al.
6,236,435 B1		Gertz	7,737,845 B2	6/2010	Fawcett et al.
D455,166 S			7,737,846 B2	6/2010	Belden, Jr. et al.
6,380,855 B1	4/2002		7,744,404 B1	6/2010	Henson et al.
6,386,906 B1		Burke	7,836,623 B2 *	11/2010	Wang A47G 1/142
6,400,560 B1					248/458
6,476,717 B1		Gross et al.	7,848,833 B2	12/2010	Li et al.
6,491,276 B1		Belliveau	7,866,623 B2	1/2011	Lampman et al.
6,502,727 B1			7,883,279 B2	2/2011	Kendall
, ,		Sutton et al.	7,909,641 B1	3/2011	Henson et al.
6,549,130 B1			D635,555 S	4/2011	
6,581,421 B2		Chmela et al.	D636,778 S		Corsini et al.
, ,		Reed B60R 11/0235	D640,247 S		Baumann et al.
		248/181.1	, ,		Belden, Jr. et al.
6,644,611 B1*	11/2003	Tai F16C 11/10	D641,756 S		
, ,		248/292.13	7,971,845 B2		
6,659,382 B2	12/2003		,		Zaliauskas et al.
·		Leyden G08B 13/1463	8,007,188 B2 *	8/2011	Orf F16M 11/041
		340/568.1	0.000.240. D2	0/2011	Zahman at al
6,702,604 B1	3/2004	Moscovitch	8,009,348 B2 D645.047 S		Zehner et al.
6,714,983 B1		Koenck	D645,047 S		
6,731,212 B2	5/2004	Hirose et al.	, ,		Augfold D12/107
6,748,707 B1	6/2004	Buchalter et al.	,		Ausfeld
6,761,579 B2	7/2004	Fort et al.	8,102,262 B2		Feldstein
6,773,172 B1	8/2004	Johnson et al.	D661,646 S		
6,781,825 B2	8/2004	Shih et al.	8,208,245 B2		
6,786,766 B1	9/2004	Chopra	D663,972 S		Alexander et al.
6,799,994 B2	10/2004	Burke	,		Law G06F 1/1626
6,831,560 B2	12/2004	Gresset	8,230,992 BZ	7/2012	
6,856,506 B2	2/2005	Doherty et al.	8 251 225 B2	8/2012	206/320 Molton
6,885,817 B2		Artonne et al.	8,251,325 B2 D668,660 S	8/2012	
6,896,543 B2		Fort et al.	D668,660 S		
D508,916 S	8/2005		8,282,060 B2 8,289,131 B2	10/2012	Cho et al.
6,935,883 B2		Oddsen, Jr.			
6,944,294 B2	9/2005	· · · · · · · · · · · · · · · · · · ·	D670,702 S D674,803 S		Znang Westrup
6,946,961 B2		Frederiksen et al.	D674,803 S D678,287 S *		Hsu D14/434
6,952,343 B2	10/2005		D678,287 S D678,293 S		Meehan
, ,		Nally et al.	D678,293 S D682,281 S		Barnard et al.
		Deconinck et al.	8,467,178 B2		Probst et al.
7,002,467 B2 7,015,596 B2	3/2006		*		Leung G06F 1/1632
·			0,700,032 DZ	112013	381/387
7,032,872 B2	4/2000	Sullivan			301/30/

US 10,198,036 B2 Page 3

(56)	Referer	ices Cited	2004/0201449 A1 2004/0230725 A1		Denison et al.
U.S.	PATENT	DOCUMENTS	2004/0233631 A1	11/2004	Lord Pandit H04N 5/2251
8,499,384 B2		Zerhusen	2005/0014536 A1*	1/2005	348/373 Grady G06F 1/1632
8,531,829 B2 8,558,688 B2		Oberpriller et al. Henson et al.	2005/0047104 A1	3/2005	Grunow et al. 455/573
8,573,394 B2	11/2013	Ahee et al.	2005/0073413 A1		Sedon et al.
D696,259 S			2005/0088572 A1		Pandit et al.
· · · · · · · · · · · · · · · · · · ·		Magnusson et al. Coleman F16M 11/10	2005/0165806 A1 2005/0206522 A1		Roatis et al. Leyden et al.
0,010,500 D1	12,2015	248/176.1	2005/0215285 A1*		Lin H04B 1/207
8,698,617 B2		Henson et al.	2005/0255895 A1	11/2005	455/557 Lee et al.
8,698,618 B2 8,708,151 B2		Henson et al. Whitten G06F 1/1656	2005/0255895 A1 2006/0061958 A1		Solomon et al.
	1, 2011	206/701	2006/0066438 A1*		Altounian G06F 21/86
D704,194 S		Young	2006/0067036 A1	2/2006	340/5.53 Lin et al.
8,749,194 B1 8,749,963 B2		Kelsch et al. Staats G06F 1/1632	2006/0007036 AT 2006/0148575 AT	7/2006	
0,740,005 102	0/2014	248/121	2007/0075914 A1	4/2007	
8,780,548 B2	7/2014		2007/0145210 A1		Fawcett et al.
8,800,763 B2	8/2014		2007/0152633 A1	7/2007	
8,800,942 B2	8/2014		2007/0159328 A1 2007/0221726 A1		Belden et al. Thomas
8,807,849 B2 *	0/2014	Apter F16M 13/00 396/419	2007/0229529 A1		Irmscher et al.
8,814,128 B2	8/2014	Trinh et al.	2007/0247793 A1		Carnevali
8,847,759 B2			2008/0104301 A1		Assouad Delder et el
8,851,565 B2		Hontz et al.	2008/0168806 A1 2008/0169923 A1		Belden et al. Belden et al.
D717,804 S D718,316 S	11/2014		2008/0222849 A1	9/2008	
8,885,337 B2			2008/0288702 A1	11/2008	
D719,144 S		_	2009/0007390 A1 2009/0009936 A1*		Tsang et al. Neu H04B 1/3877
8,913,380 B2 8,955,807 B2		Enomoto et al. Alexander et al.	2009/0009930 A1	1/2009	361/679.01
8,963,498 B2		Ferguson	2009/0033492 A1	2/2009	Rapp et al.
D725,119 S	3/2015	Gaylord	2009/0034221 A1		Kerrigan
D726,732 S	4/2015 6/2015		2009/0059481 A1*	3/2009	Taylor H04B 1/3816 361/679.01
D732,037 S 9,019,698 B2	7/2015		2009/0079566 A1	3/2009	Goldstein et al.
, ,		Wheeler et al.	2009/0080684 A1	3/2009	
, ,		Wheeler et al.	2009/0114556 A1		Tai et al.
9,158,336 B2 ² 9,220,358 B2		Brewer A45C 11/00 Wheeler et al.	2009/0166483 A1 2009/0173868 A1		Marsilio et al. Fawcett et al.
9,229,494 B2			2009/0179127 A1	7/2009	
D748,634 S	2/2016	Hofer	2009/0183266 A1		Tan et al.
9,269,247 B2 9,303,809 B2		Fawcett et al. Reynolds et al.	2009/0186583 A1*	7/2009	Seil H04B 1/3877 455/66.1
D757,731 S		Nguyen	2009/0225166 A1	9/2009	Dronge
9,373,236 B2	6/2016	Oehl et al.		12/2009	Terlizzi
9,396,631 B2 D766,247 S		Fawcett et al. Burmester	2009/0328141 A1 2010/0012809 A1*	1/2010	Zhang Zeng F16M 11/10
9,478,110 B2		Fawcett et al.	Z010/001Z809 A1	1/2010	248/351
9,576,452 B2	2/2017	Fawcett et al.	2010/0075609 A1*	3/2010	Seil B60R 11/02
9,641,539 B1		Votaw Envicett et al	2010/0070242 A 1 *	4/2010	455/66.1
9,659,472 B2 D795,263 S	8/2017	Fawcett et al. Fujioka	2010/0078343 A1*	4/2010	Hoellwarth B29C 45/14639 206/320
D798,302 S	9/2017	Burmester	2010/0081337 A1	4/2010	Dorogusker et al.
9,760,116 B2	9/2017		2010/0124040 A1*	5/2010	Diebel G06F 1/1628
9,847,806 B1 2001/0049222 A1	12/2017 12/2001	Fort et al.	2010/0120501 4.1	C/2010	361/816
2001/0055978 A1		Herrod	2010/0138581 A1 2010/0172081 A1		Bird et al. Tian et al.
2002/0044406 A1		Shimoda et al.	2010/0195279 A1		Michael
2002/0085343 A1 2002/0162366 A1		Wu et al.	2010/0215355 A1	8/2010	
2002/0102300 A1 2003/0007634 A1	1/2002	Chmela et al. Wang	2010/0326934 A1 2011/0047844 A1		Goldberg Fawcett et al.
2003/0010859 A1		Ryczek	2011/004/844 A1 2011/0068919 A1		Rapp et al.
2003/0128975 A1		Shevick	2011/0187531 A1	8/2011	Oehl et al.
2003/0137584 A1		Norvell et al.	2011/0195786 A1	8/2011	
2003/0222149 A1 2003/0222848 A1		Solomon Solomon et al.	2011/0254661 A1 2011/0278885 A1	10/2011	Fawcett et al. Procter
		Doherty G06F 1/1632			Ezzo et al.
		361/679.27			Horvath et al.
2004/0003150 A1		Deguchi			Henson et al.
2004/0017652 A1		Billington et al.	2012/0026119 A1	2/2012	
2004/0113819 A1 2004/0177658 A1		Gauthey et al. Mitchell E05B 73/0082	2012/0033375 A1 2012/0037783 A1		Madonna et al. Alexander et al.
	2, 200 1	70/58	2012/0037763 AT		Westrup

(56) Referen	ces Cited	WO 2013015855 4/2012
U.S. PATENT	DOCUMENTS	WO 2012069816 A1 5/2012 WO 2012151130 A1 11/2012
2012/0042451 41 2/2012		WO 2013068036 A1 5/2013 WO 2013134484 A1 9/2013
	Alexander et al. Yukawa et al.	WO 2013134464 A1 3/2013 WO 2014019072 A1 2/2014
	Barnard et al.	WO 2014107184 A1 7/2014
	Wetzel	WO 2014134718 A1 9/2014
2012/0188689 A1* 7/2012	Leung G06F 1/1632	WO 2015050710 A1 4/2015
2012/0100156 11 5/2012	361/679.01	WO 2015051840 A1 4/2015 WO 2015/184993 A1 12/2015
2012/0189156 A1 7/2012 2012/0193496 A1 8/2012		2010/10 1330 111 12/2010
	Richter et al.	OTHER PUBLICATIONS
	Abdollahzadeh et al.	OTTER TODLICATIONS
	Bland, III et al.	U.S. Appl. No. 29/604,812: Requirement for Restriction/Election,
	Wheeler Richards	dated Mar. 19, 2018, 7 pages.
	Dolci et al.	PCT/US17/44230: Initial Publication with ISR, dated Feb. 1, 2018,
2012/0303476 A1 11/2012	Krzyzanowski et al.	46 pages.
	Wheeler	PCT/US17/44230: Written Opinion of the International Search
	Wheeler et al. Wheeler	Authority, dated Feb. 1, 2018, 7 pages.
	Supran	"35 mm Camera Display"—Walmart Publication 1995, 5 pages.
	Nonomura et al.	Excerpt from Bruce Schneier, Applied Cryptology: Protocols, Algo-
	Su et al.	rithms, and Source Code in C (1994), 14 pages. International Search Report for PCT/US2011/037235 dated Oct. 21,
	Allison et al. Wheeler et al.	2011.
	Moock et al.	Retailgeek, "Virtual Tour of MTI Retail Innovation Center in 2009,"
	Moock et al.	YouTube Video https://www.youtube.com/watch?v=-wUvcDAmhj0,
	Hasenei	published on Aug. 2, 2010 (see transcript and sample screenshots,
2014/0118930 A1* 5/2014	Sedon E05B 73/0082 361/679.56	pp. 1-20).
2014/0159898 A1 6/2014	Wheeler et al.	Propelinteractive, "Installing LP3 Old Version", YouTube Video
2014/0168884 A1 6/2014		https://wvvw.youtube.com/watch?v=FRUaOFWiDRw&t=1s, published on Jun. 28, 2010 (see sample screenshots, pp. 1-9).
	Khodapanah	Propelinteractive, "Freedom Universal 2 Animation_003.wmv",
2014/0321048 A1 10/2014 2014/0328020 A1 11/2014	Kupferstein	YouTube Video https://www.youtube.com/watch?v=_odGNnQv0BQ
2014/0328020 A1 11/2014 2014/0355200 A1 12/2014		&t=1s, published on Feb. 16, 2010 (see sample screenshots, pp.
	Addepalli	1-24).
	Weusten et al.	Propelinteractive, "MTI LP3 Product Mounting", YouTube Video
2015/0156900 A1 6/2015 2015/0186685 A1 7/2015	Yeh Vroom	https://www.youtube.com/watch?v=KX4TEuj1jCl, published on Jun.
	Rayner G06F 1/1601	23, 2010 (see sample screenshots, pp. 1-11). Unicam Europe, "Freedom Lp3 4.17.09", SlideShare Presentation
2015/0201/25 111 //2015	224/191	https://www.slideshare.net/Borfu/freedom-lp3-41709, published on
2015/0212590 A1* 7/2015	Feldstein G06F 1/1656	Jul. 28, 2009 (pp. 1-9).
	345/173	"Declaration of Mike Cook", Vanguard Products Group, Inc. v.
	Dandie et al.	Merchandising Technologies, Inc., Case No. 3:10-cv-392-BR, U.S.
2016/0135560 A1 5/2016 2016/0239796 A1 8/2016	Grant et al.	District Court for the District of Oregon, Oct. 20, 2010, pp. 1-7.
	Henson et al.	MTI 2008 PowerPoint, "Vanguard Program" (Exhibit 1005 of Declaration of Mike Cook), pp. 1-9.
	Moock et al.	"Declaration of White Cook), pp. 1-9. "Declaration of Thaine Allison in Support of Patent Owner's Reply
2018/0017992 A1 1/2018		to Petitioner's Opposition to Patent Owner's Motion to Amend",
	Schatz et al.	Inter Partes Review of U.S. Pat. No. 7,909,641, Case IPR2013-
2018/0143664 A1 5/2018	wyne	00122, Feb. 5, 2014, pp. 1-13.
FOREIGN PATE	NT DOCUMENTS	"Deposition of Thaine Allison, III", Inter Partes Review of U.S. Pat.
	TIT DOCUMENTS	No. 7,909,641, Case IPR2013-00122, Feb. 24, 2014, pp. 1-198. Reuters, "MTI Begins Shipping Freedom TM Universal 2.0 Merchan-
CA 2802845 A1	5/2011	dising Solution", Oct. 1, 2008, pp. 1-3.
CN 103098104 A	5/2011	"MTI Freedom Universal 2.0 Product Manual", Dec. 2008, pp.
DE 20 2009 013722 U1 EP 0745747 A1	1/2011 12/1996	1-21.
EP 1575249 A2	9/2005	Protex International Corp., "Instructions for PowerPro Detangler",
EP 2619737	5/2011	2005, 1 page.
ES 1058183 U	11/2004	Protex International Corp., "Instructions for PowerPro Sensor Head Cameras and Camcorders (Power and Security)", 2007, pp. 1-9.
FR 2595227 A1 FR 2768906 A1	9/1987 4/1999	Protex International Corp., "PowerPro System", 2006, pp. 1-9.
FR 2868459	10/2005	"Reasons for Substantial New Question of Patentability and Supple-
GB 2440600 A	2/2008	mental Examination Certificate", Inter Partes Review of U.S. Pat.
JP H0573857 U JP H0668913 A	10/1993 3/1994	No. 7,909,641, Case IPR2013-00122, Jan. 30, 2013, pp. 1-12.
JP 10008913 A JP 1997-259368	3/199 4 10/1997	U.S. Appl. No. 61/607,802, filed Mar. 7, 2012.
JP 3100287 B2	10/2000	U.S. Appl. No. 61/620,621, filed Apr. 5, 2012. U.S. Appl. No. 61/884,098, filed Sep. 29, 2013.
JP 2013529141	5/2011	U.S. Appl. No. 61/884,098, filed Sep. 29, 2013. U.S. Appl. No. 61/774,870, filed Mar. 8, 2013.
TW 103115313 A WO 1997031347 A1	4/2014 8/1997	U.S. Appl. No. 14/845,146: prosecution history.
WO 199/031347 A1 WO 2004/038670 A1	5/2004	U.S. Appl. No. 29/415,938: prosecution history.
WO 2012039794	3/2012	U.S. Appl. No. 29/605,793: app as filed.
WO 2012151130	4/2012	U.S. Appl. No. 29/605, 791: app as filed.

(56) References Cited

OTHER PUBLICATIONS

- U.S. Appl. No. 29/605,580: app as filed.
- U.S. Appl. No. 29/605,581: app as filed.
- U.S. Appl. No. 29/605,583: app as filed.
- U.S. Appl. No. 29/605,579: app as filed.
- U.S. Appl. No. 15/488,370: app as filed.
- U.S. Appl. No. 15/488,379: app as filed.
- U.S. Appl. No. 15/488,373: app as filed.
- U.S. Appl. No. 15/488,383: app as filed.
- 16206866.2: app as filed.
- U.S. Appl. No. 12/351,837: app as filed.
- U.S. Appl. No. 62/323,466: app as filed.
- U.S. Appl. No. 62/323,511: app as filed.
- PCT/US2017/027798: app as filed.
- PCT/US2017/027801: app as filed.
- U.S. Appl. No. 29/604,812, filed May 19, 2017, 29 pages.
- U.S. Appl. No. 29/604,812: Filing Receipt, dated May 23, 2017, 3 pages.
- U.S. Appl. No. 15/367,028, filed Dec. 1, 2016, 113 pages.
- U.S. Appl. No. 15/367,028: Filing Receipt, dated Dec. 13, 2016, 3 pages.
- U.S. Appl. No. 15/367,028: Notice to File Missing Parts, dated Dec. 13, 2016, 3 pages.
- U.S. Appl. No. 15/367,028: Request for Corrected Filing Receipt, dated Dec. 22, 2016, 7 pages.
- U.S. Appl. No. 15/367,028: Filing Receipt, dated Dec. 28, 2016, 3 pages.
- U.S. Appl. No. 15/367,028: Applicant Response to Pre-Exam Formalities Notice, dated Feb. 13, 2017, 12 pages.
- U.S. Appl. No. 15/367,028: Filing Receipt, dated Feb. 28, 2017, 3 pages.
- U.S. Appl. No. 15/367,028: Notice of Publication, dated Jun. 8, 2017, 1 page.
- U.S. Appl. No. 15/367,028: Non-Final Rejection, dated Oct. 30, 2017, 12 pages.
- U.S. Appl. No. 15/367,028: Application Data Sheet to update/correct info, dated Nov. 21, 2017, 7 pages.
- U.S. Appl. No. 15/367,028: Filing Receipt, dated Nov. 22, 2017, 3 pages.
- U.S. Appl. No. 15/367,028: Amendment/Req. Reconsideration-After Non-Final Reject, dated Jan. 30, 2018, 14 pages.
- U.S. Appl. No. 15/656,520: Application as filed and Preliminary Amendment, dated Jul. 21, 2017, 120 pages.
- U.S. Appl. No. 15/656,520: Filing Receipt, dated Jul. 28, 2017, 3 pages.
- U.S. Appl. No. 15/656,520: Applicant Response to Pre-Exam Formalities, dated Sep. 25, 2017, 9 pages.
- U.S. Appl. No. 15/656,520: Filing Receipt, dated Sep. 26, 2017, 3 pages.
- U.S. Appl. No. 15/656,520: Non-Final Rejection, dated Nov. 27, 2017, 11 pages.
- U.S. Appl. No. 15/656,520: Notice of Publication, dated Jan. 4, 2018, 1 page.
- PCT/US16/64863 / WO2017/096330: Initial Publication without ISR, dated Jun. 8, 2017.
- PCT/US16/64863 / WO2017/096330: International Search Report, dated Oct. 20, 2017, 5 pages.
- U.S. Appl. No. 14/097,171, filed Dec. 4, 2013, 23 pages.
- U.S. Appl. No. 14,097,171: Filing Receipt, dated Dec. 23, 2013, 3 pages.

- U.S. Appl. No. 14,097,171: Notice to File Missing Parts, dated Dec. 23, 2013, 2 pages.
- U.S. Appl. No. 14,097,171: Applicant Response to Pre-Exam Formalities Notice, dated Feb. 24, 2014, 9 pages.
- U.S. Appl. No. 14,097,171: Filing Receipt, dated Mar. 11, 2014, 3 pages.
- U.S. Appl. No. 14,097,171: Notice of Publication, dated Jun. 19, 2014, 1 page.
- U.S. Appl. No. 14,097,171: Non-Final Rejection, dated Jan. 2, 2015, 6 pages.
- U.S. Appl. No. 14,097,171: Amendment/Req. Reconsideration-After Non-Final Reject, dated Jul. 1, 2015, 7 pages.
- U.S. Appl. No. 14,097,171: Final Rejection, dated Sep. 17, 2015, 9 pages.
- U.S. Appl. No. 14,097,171: RCE and Amendments, dated Feb. 17, 2016, 11 pages.
- U.S. Appl. No. 14,097,171: Non-Final Rejection, dated Mar. 17, 2016, 10 pages.
- U.S. Appl. No. 14,097,171: Amendment/Req. Reconsideration-After Non-Final Reject, dated Aug. 17, 2016, 7 pages.
- U.S. Appl. No. 14,097,171: Final Rejection, dated Nov. 10, 2016, 14 pages.
- U.S. Appl. No. 14,097,171: RCE and Amendments, dated Apr. 10, 2017, 18 pages.
- U.S. Appl. No. 14,097,171: Notice of Allowance and Fees Due, dated May 2, 2017, 11 pages.
- U.S. Appl. No. 14,097,171: Issue Fee Payment, dated Aug. 2, 2017, 1 page.
- U.S. Appl. No. 14,097,171: Filing Receipt, dated Aug. 2, 2017, 3 pages.
- U.S. Appl. No. 14,097,171: Issue Notification, dated Aug. 23, 2017, 1 page.
- U.S. Appl. No. 15/667,436, filed Aug. 2, 2017, 25 pages.
- U.S. Appl. No. 15/667,436: Notice to File Missing Parts, dated Aug. 10, 2017, 2 pages.
- U.S. Appl. No. 15/667,436: Filing Receipt, dated Aug. 10, 2017, 3 pages.
- U.S. Appl. No. 15/667,436: Applicant Response to Pre-Exam Formalities Notice, dated Oct. 5, 2017, 11 pages.
- U.S. Appl. No. 15/667,436: Notice of Publication, dated Jan. 18, 2018, 1 page.
- U.S. Appl. No. 15/667,436: Non-Final Rejection, dated Feb. 22, 2018, 9 pages.
- U.S. Appl. No. 15/875,957: Application as filed, dated Jan. 19, 2018, 30 pages.
- U.S. Appl. No. 15/875,957: Filing Receipt, dated Feb. 15, 2018, 3 pages.
- U.S. Appl. No. 15/875,957: Office of Petitions Decision, dated Feb. 21, 2018, 2 pages.
- U.S. Appl. No. 15/659,556, filed Jul. 25, 2017, 62 pages.
- U.S. Appl. No. 15/659,556: Filing Receipt, dated Aug. 2, 2017, 3 pages.
- U.S. Appl. No. 15/659,556: Non-Final Rejection, dated Jan. 24, 2018, 22 pages.
- U.S. Appl. No. 15/659,556: Notice of Publication, dated Feb. 1, 2018, 1 page.
- U.S. Appl. No. 15/600,642: Application as filed, dated May 19, 2017, 30 pages.
- U.S. Appl. No. 15/600,642: Filing Receipt, dated May 31, 2017, 3
- pages. Office Action for U.S. Appl. No. 15/667,436 dated Feb. 22, 2018.
- * cited by examiner

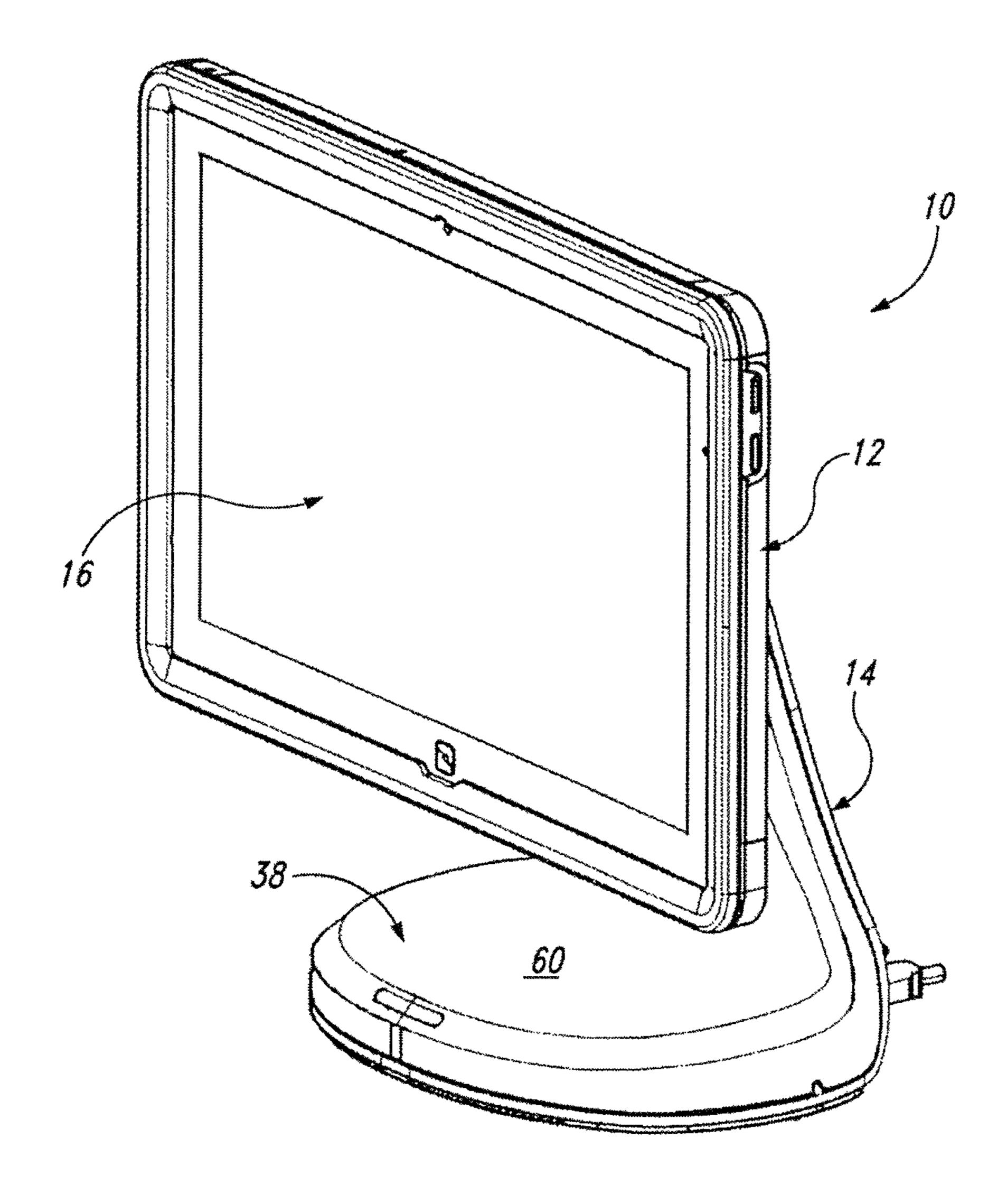


Fig. 1

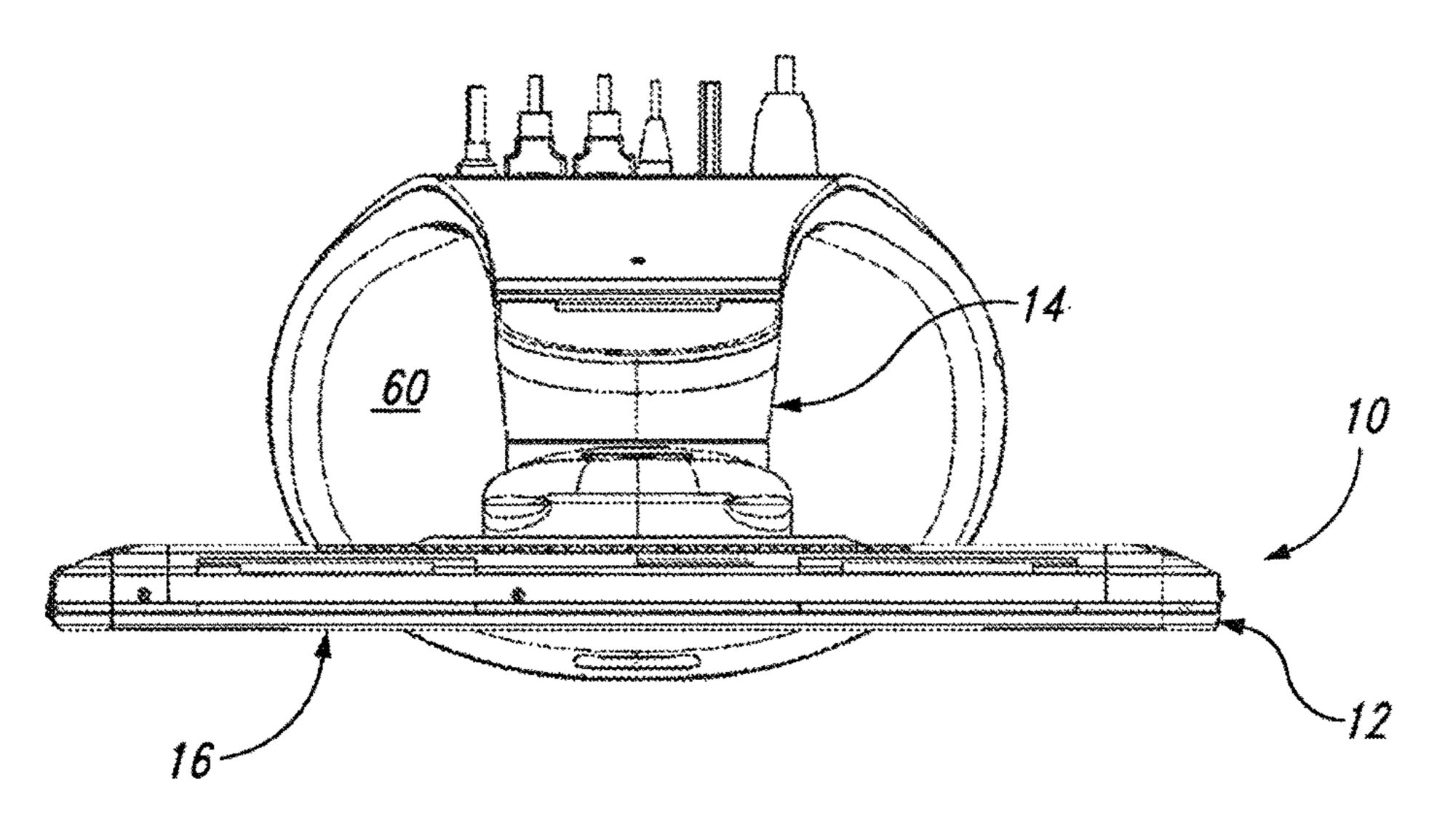
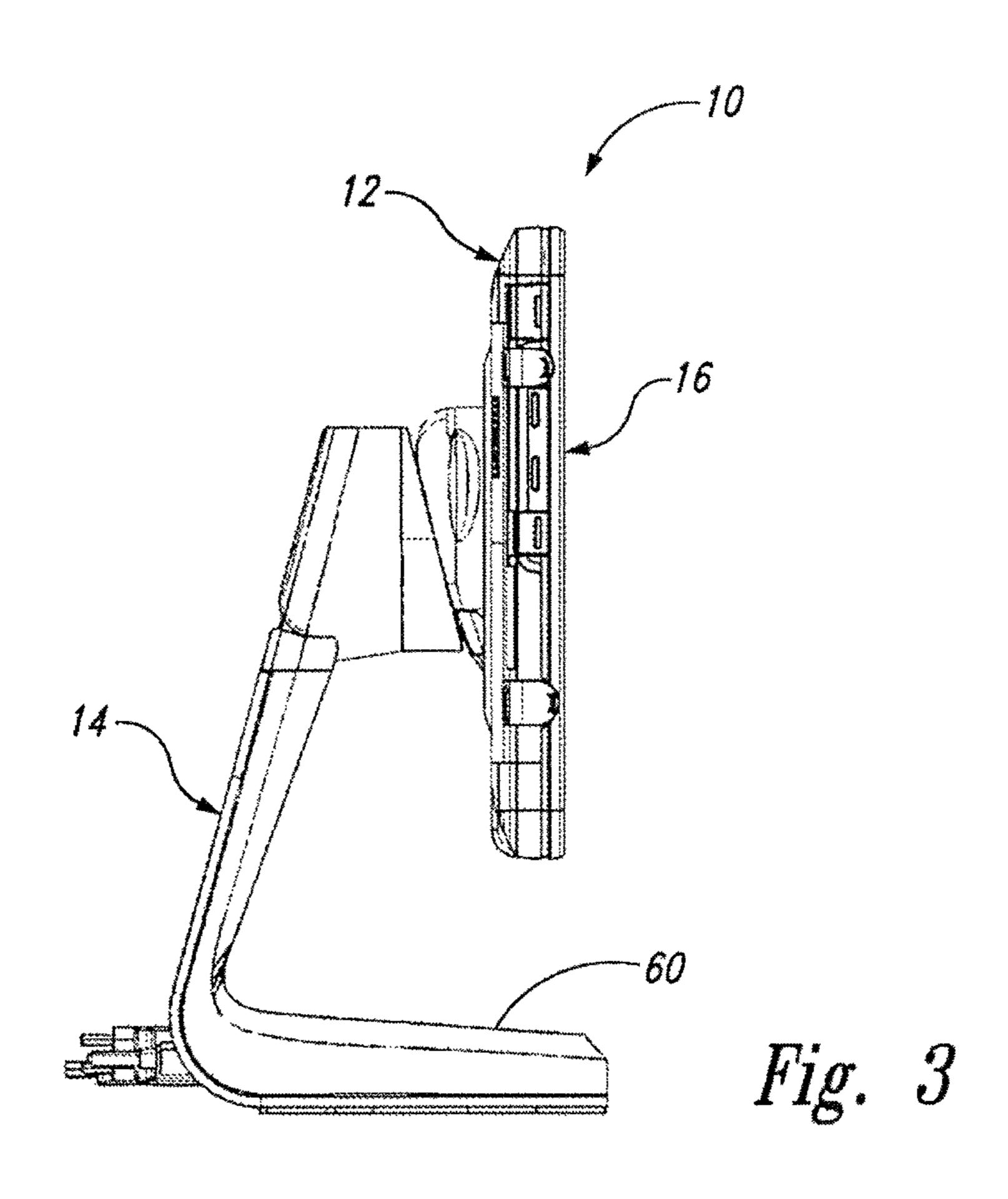


Fig. 2



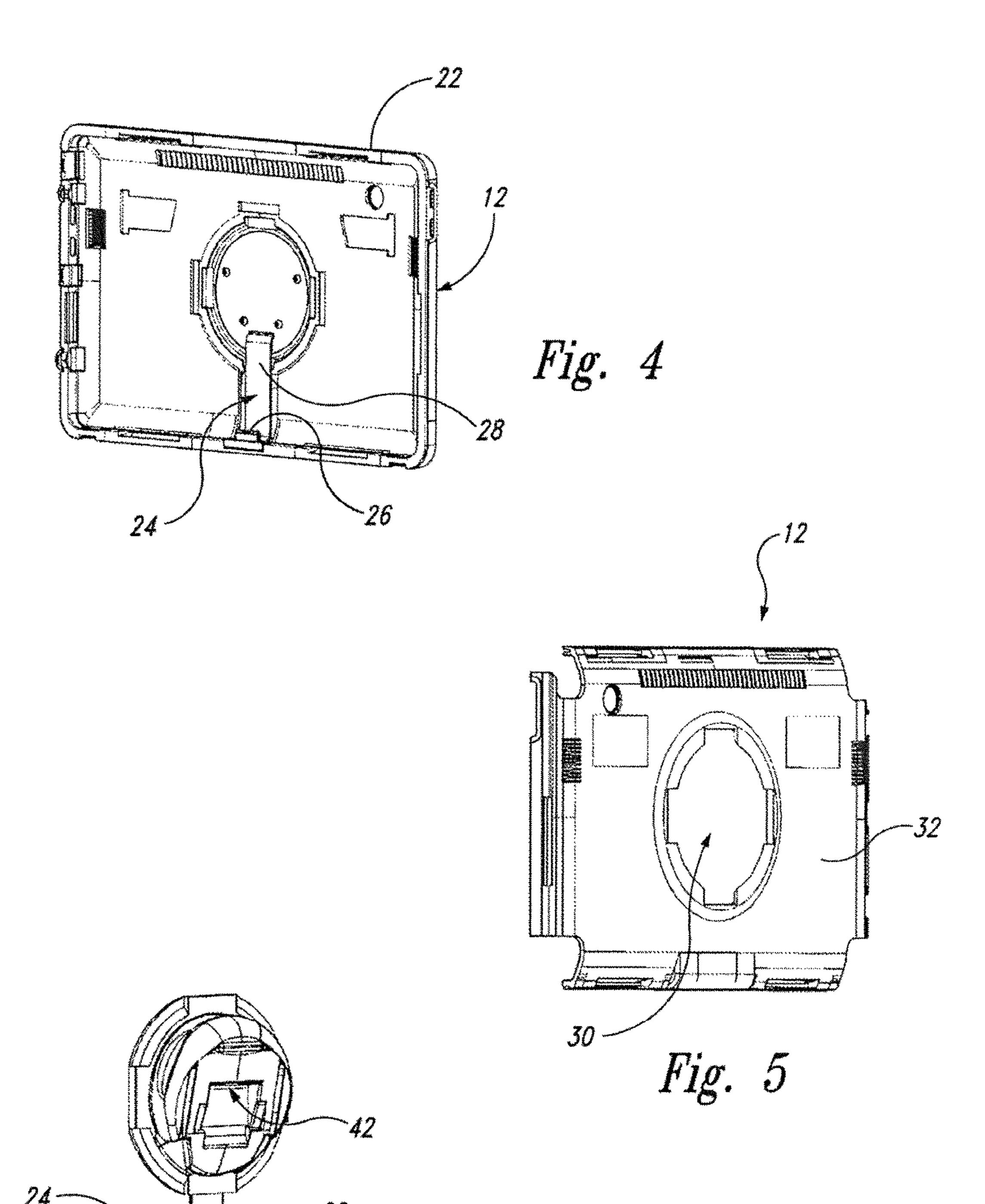
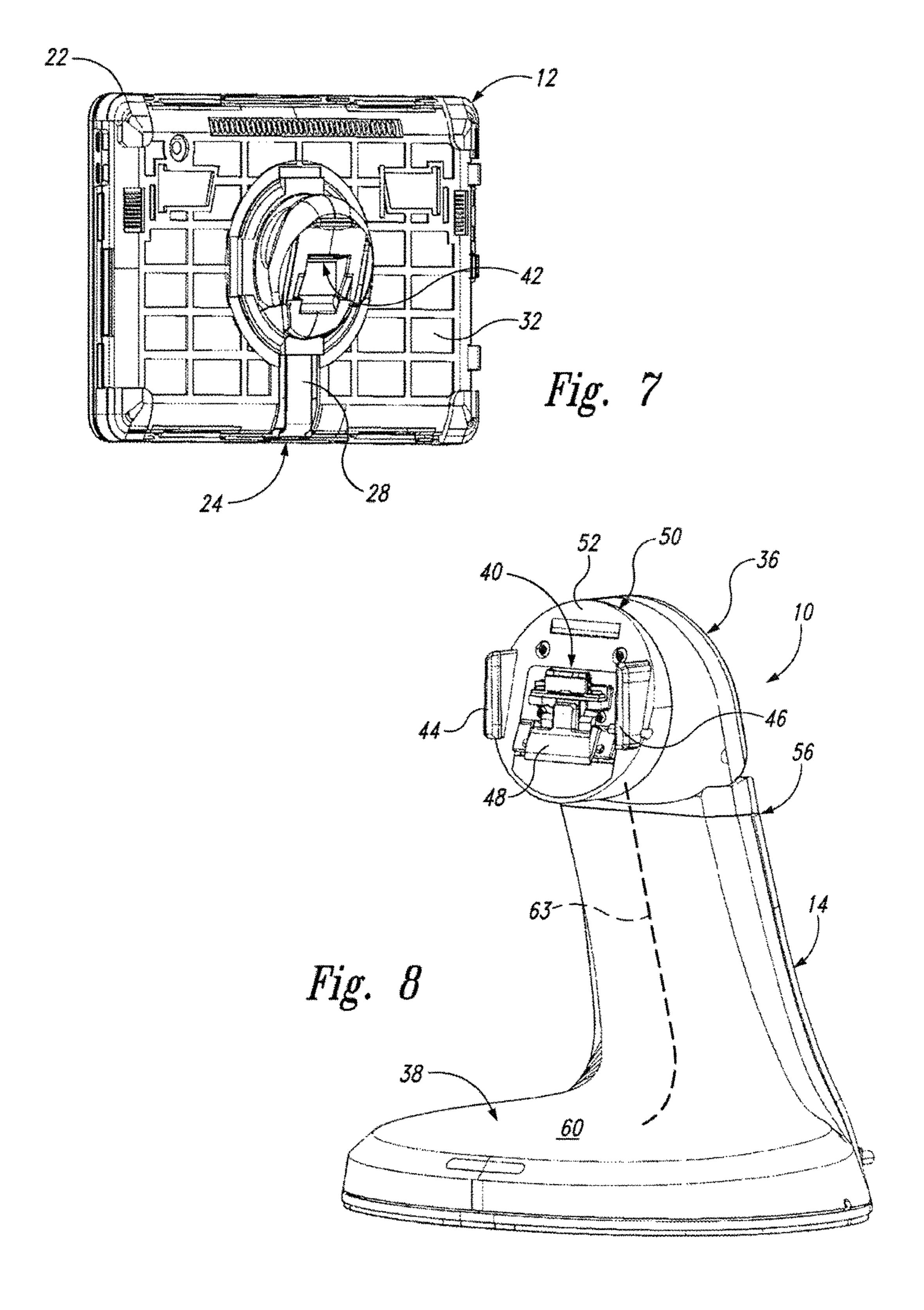
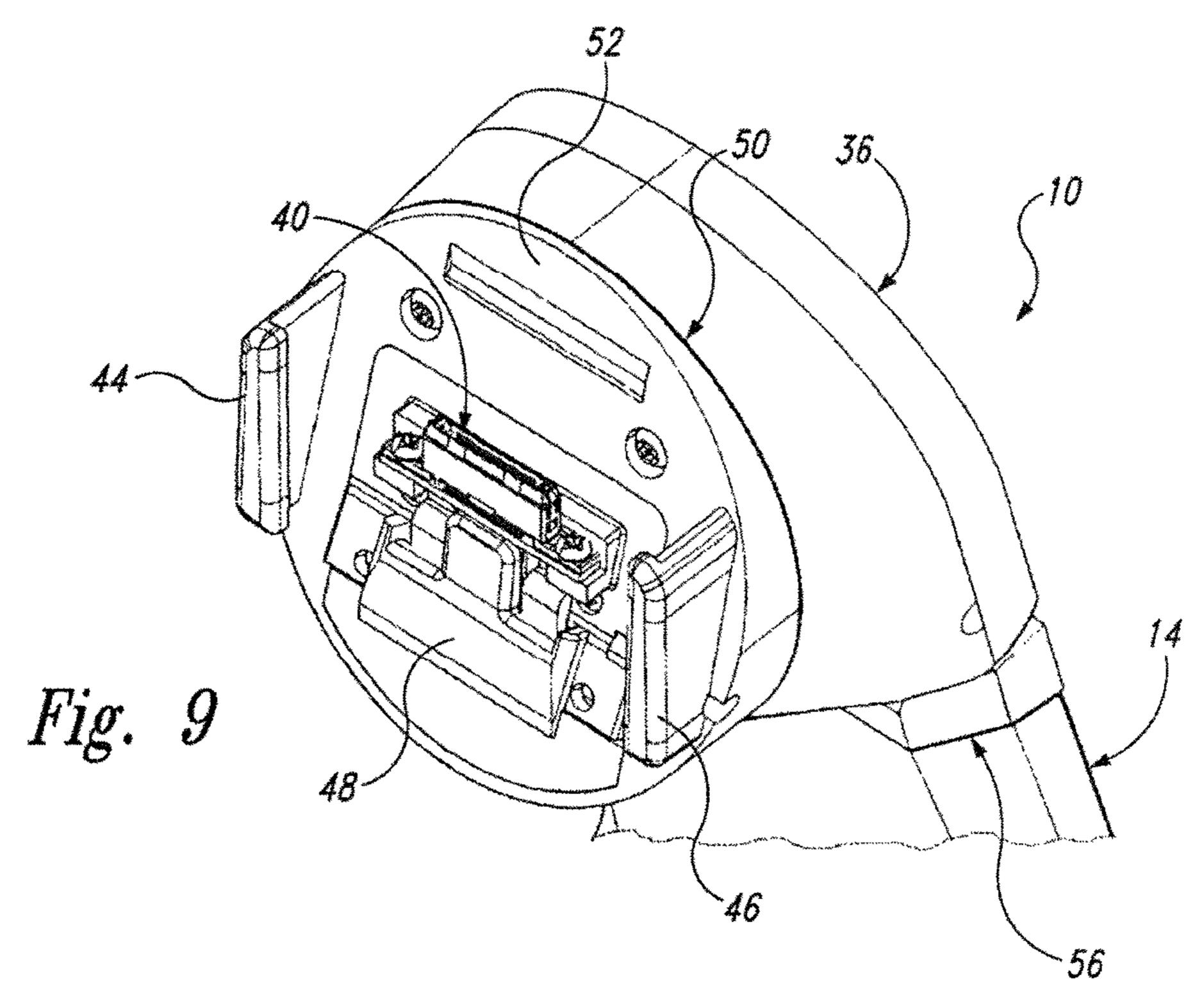
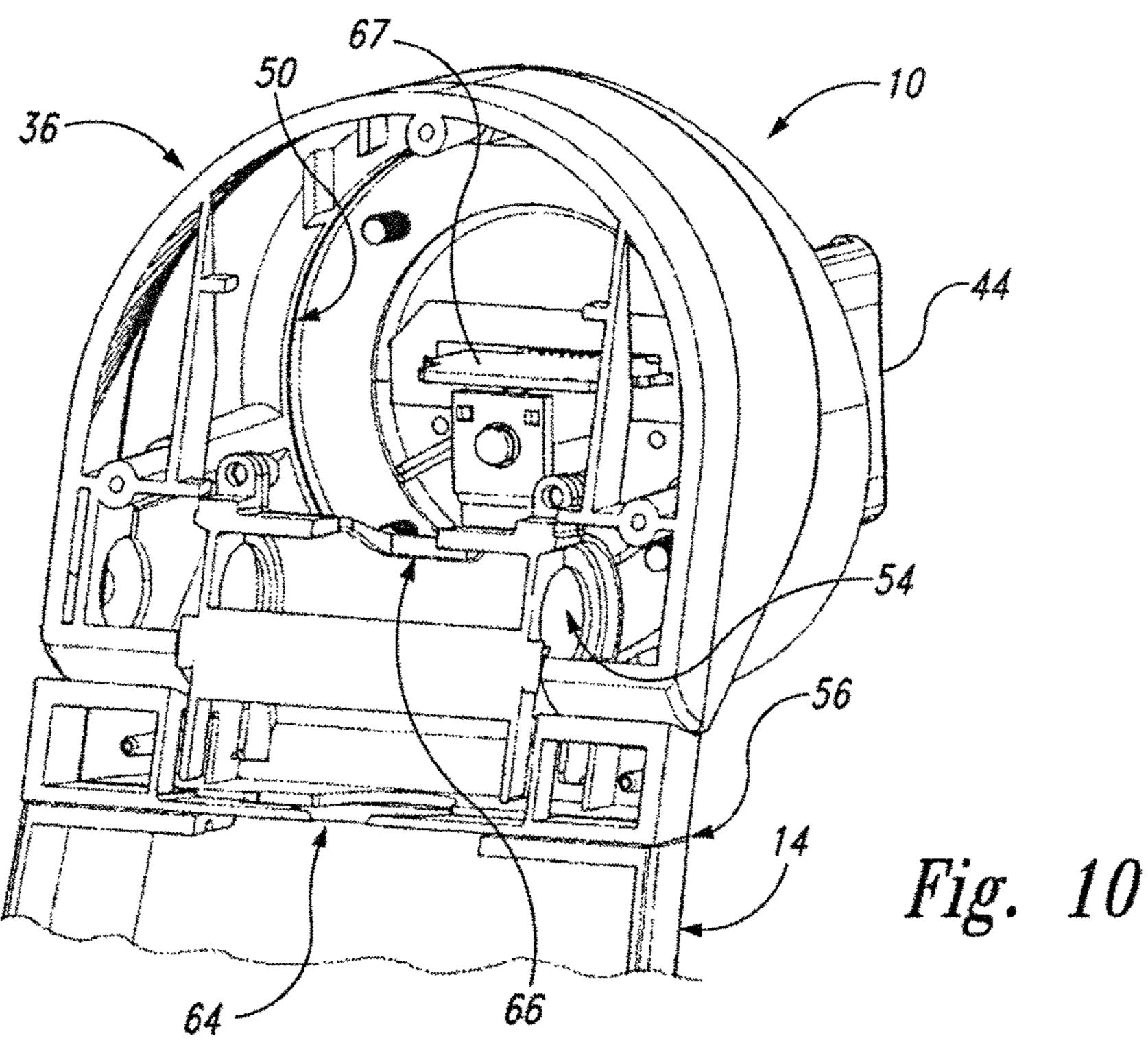


Fig. 6







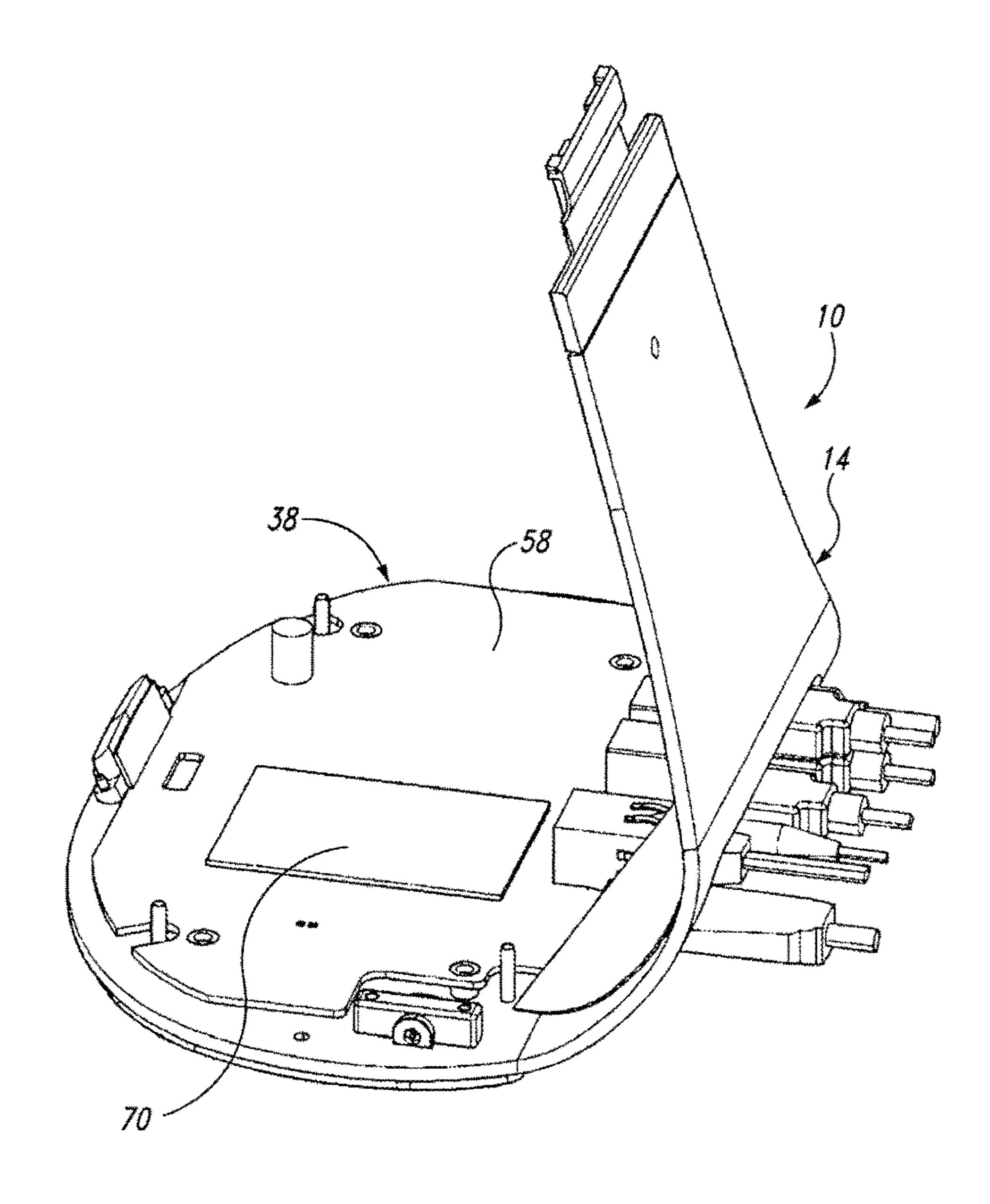
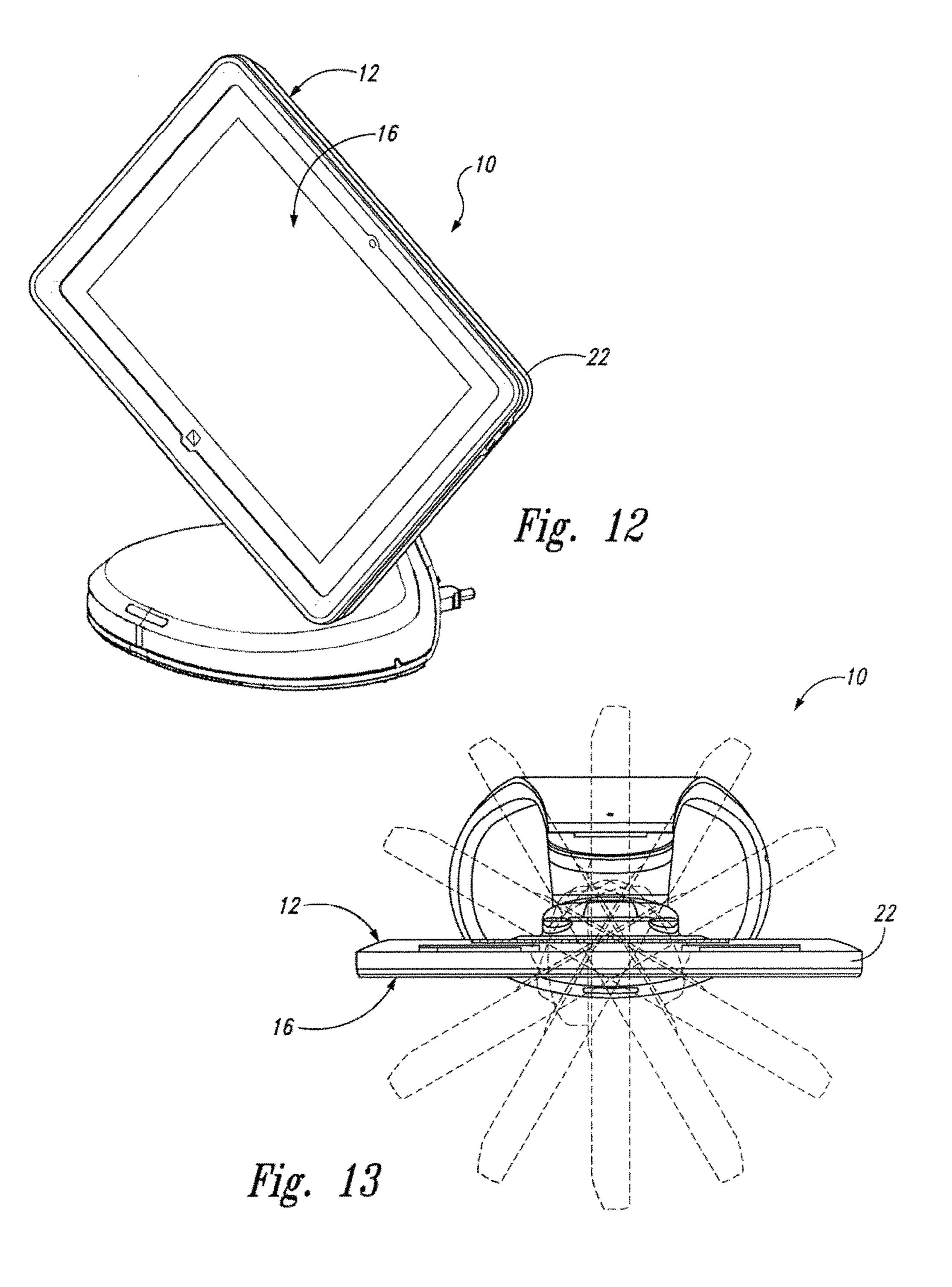


Fig. 11



DOCKING STATION FOR TABLET DEVICE

CROSS REFERENCE TO RELATED APPLICATIONS

This application is a continuation of and claims priority under 35 USC 120 to U.S. patent application Ser. No. 15/667,436, filed Aug. 2, 2017, entitled "DOCKING STATION FOR TABLET DEVICE," which is a continuation of U.S. patent application Ser. No. 14/097,171, filed Dec. 4, 2013, now U.S. Pat. No. 9,760,116, entitled "DOCKING STATION FOR TABLET DEVICE," which claims priority under 35 USC 119 to U.S. Provisional Application Ser. No. 61/733,842, filed Dec. 5, 2012, and entitled, "DOCKING STATION FOR TABLET DEVICE," the entire content of each of which is incorporated herein by reference; this application is related to U.S. patent application Ser. No. 15/875,957, filed Jan. 19, 2018, entitled "DOCKING STATION FOR TABLET DEVICE."

TECHNICAL FIELD

The design disclosed below relates to a docking station for a tablet device. More particularly, the design relates to a docking station that allows the tablet device to be used as a 25 work station, or alternatively, the tablet device can be undocked and used remotely from the work station position.

BACKGROUND OF THE INVENTION

In general terms, electronic tablet devices (or "tablets") have evolved such that they are now performing many of the functions that were formerly performed by laptop or desktop computers. The processing capability of tablets now allow them to perform standard business functions.

Because of their size and portability, one of the problems associated with the use of tablets in a business setting relates to physical security and/or theft of the device itself. The design disclosed here addresses these problems.

SUMMARY OF THE INVENTION

The following is a summary of the various improvements disclosed in this document.

The disclosed design is a docking station that is primarily 45 intended to be used in connection with tablet devices. Tablet devices are well-known electronic devices. They are sometimes called electronic tablets, tablet computers, or just "tablets."

The docking station disclosed here includes a security 50 frame portion for retaining the tablet. The security frame portion surrounds the tablet and provides a framework for carrying the tablet from place-to-place while retained within the security frame.

The frame portion carries or has a first universal adapter 55 that electrically couples the tablet to the frame portion. The universal adapter is designed so that it may electrically couple to the different kinds of connection ports that relate to different brands of tablets. As a person skilled in the art would know, these connection ports provide a means for 60 transmitting power and data to and from the tablet.

The docking station also includes a pedestal, or pedestal portion, that normally rests on a workstation surface or the like. The pedestal has a connecting head portion that provides a means for releasably connecting the above-described 65 frame portion to the pedestal portion. The head portion carries a second universal adapter for electrically coupling

2

the head portion to the first universal adapter on the frame portion, previously described, when the frame portion is connected or "docked" to the pedestal portion.

Another feature of the design involves a rotational connection between the head portion of the pedestal and a lower base portion of the pedestal. The rotational connection enables three degrees of angular orientation or adjustment of the head portion relative to the base portion. This, in turn, allows for adjustment of the view angle of the tablet when it is docked.

The base portion is connectable to or provides electrical connection ports for at least one electrical signal, although preferably, it includes ports for numerous kinds of electrical connections that normally involve power and data. A conductor pathway is provided through the base member to the universal adapter carried by the head portion by crossing the rotational connection between the head portion and the base portion. This allows electrical connectivity to be maintained regardless of the angular portion of the frame (and tablet) relative to the pedestal.

Another feature of the design involves locking the frame to the pedestal. While this may be accomplished in different ways, the design disclosed here includes an electronic lock for additional security

The foregoing summary will become better understood upon review of the attached drawings which are to be taken in conjunction with the written description set forth below.

BRIEF DESCRIPTION OF THE DRAWINGS

In the drawings, like reference numerals and letters refer to like parts throughout the various views, and wherein:

FIG. 1 is a perspective view of a docking station constructed in accordance with the patent claims;

FIG. 2 is a top view of the docking station;

FIG. 3 is a side view of the docking station;

FIG. 4 is a perspective view of a security frame portion of the docking station that holds or retains a tablet;

FIG. 5 is a perspective view of a back-side part of the security frame portion illustrated in FIG. 4;

FIG. 6 is a perspective view of an adapter portion of the security frame illustrated in FIG. 4;

FIG. 7 is a perspective view of the back-side of the security frame portion illustrated in FIG. 4;

FIG. 8 is a perspective view of a pedestal portion of the docking station illustrated in FIG. 1;

FIG. 9 is an enlarged view of the head of the pedestal portion illustrated in FIG. 8;

FIG. 10 is a view like FIG. 9, but is taken from the back-side perspective of the pedestal portion;

FIG. 11 is a view of the lower portion of the pedestal portion illustrated in FIG. 8, with a cover removed to reveal an electronics board;

FIG. 12 is a perspective view of the docking station, showing angular rotation of the tablet device; and

FIG. 13 is a top view of FIG. 12 and shows different rotational positions of the tablet device.

DETAILED DESCRIPTION

Referring now to the drawings, and first to FIG. 1, indicated generally at 10 is a docking station in accordance with the present disclosure. The docking station 10 includes a security frame portion, indicated generally at 12, and a pedestal portion, indicated generally at 14.

The pedestal portion 14 surrounds and captures a tablet device 16. The outline of the tablet's screen is indicated by dashed line 18 in FIG. 1. The activating button on the tablet is indicated at 20.

Although the frame 12 is illustrated here as surrounding 5 and capturing the tablet 16, it is to be understood that there could be other physical embodiments that perform the same function without completely surrounding the entire or full periphery of the tablet 16.

Referring now to FIGS. 4-7, further details of the frame portion 12 will now be described. FIG. 4 illustrates the frame portion 12 without the tablet inside (looking at the front). As can be seen from the Fig., it has a rectangular peripheral edge 22 that captures the edge of the tablet 16. Depending on the configuration, the edge structure 22 may be provided with built-in openings for different kinds of tablet access ports (for the purpose of pushing buttons on the tablet or accessing jacks, etc.).

The frame 12 carries a first electrical adapter, indicated 20 line 63 in FIG. 8. generally at 24 in FIGS. 4 and 6, that provides the needed electrical connection to the tablet 16. The adapter 24 is "universal" in that it has a universal connector fitting 26 that would be shaped to fit a variety of different kinds of tablets (tablet variations are dictated by brand). Typically, and as a 25 person skilled in the art would understand, the universal adapter 24 provides power and data connections for the tablet—i.e., power for the device's battery, etc., and data for network or Internet connections, if hard-wired connections are desired. The conductors for the universal adapter **24** run 30 through a stem portion 28 (see FIG. 6 of the universal adapter **24**).

FIG. 5 illustrates the back-side or back plate 30 of the frame portion 12. It is surrounded by the edge 22 previously capturing the universal adapter 24 previously described. When all of these components are assembled together, it produces the frame portion of the docking station indicated in FIG. 4 (the front side) and FIG. 7 (the back side).

Referring now to FIG. 8, reference numeral 14 generally 40 indicates the pedestal portion of the docking station 10. The pedestal portion includes an upper head portion, indicated generally at 36, and a lower base portion, indicated generally at **38**. The head portion **36** carries a second universal adapter 40 that connects into a similar connector fitting in a recess 45 of 42 of the first adapter 24.

The first adapter 24 releasably rests on protrusions 44, 46 on head portion 36. It has a conventional catch 48 that allows adapter 24 (and therefore, frame 12) to be releasably connected to and from the pedestal portion 14 (via the head 36). 50

An advantage to the design is that the portion fitting 40 adjacent the front face 52 of head portion 36 creates a reliable interface connection point for engagement/disengagement of the first universal adapter 24 (and frame portion 12) with the pedestal portion 14.

The head portion **36** is designed to rotate at three physical positions. The first position is indicated by arrow 50 in FIG. 9, which illustrates a circular rotation of the front face 52 of the head portion about an axis that would project normally out from face **52**. When the frame portion **12** is mounted to 60 the pedestal 14, this arrangement provides one degree of freedom of rotation that would allow the tablet 16 to be rotated between portrait and landscape orientations, if desired. Arrow **54** in FIG. **10** points to another area designed to allow the head **36** to rotate up or down to rotationally lift 65 or lower the screen of the tablet for vertical positioning, as desired.

Finally, arrow **56** points to a last position for angularly rotating the head about a vertical or upright axis for angularly adjusting the tablet screen 16 from left-to-right, as desired.

The physical structure of the above rotational connections can take different forms, using different types of pins or moldings that allow one part to rotate relative to another. In all cases, what is important about the design is that it allows three degrees of rotation without interfering with the wiring in the pedestal portion. FIGS. 12 and 13 illustrate different possible rotational positions.

In this last respect, FIG. 11 illustrates base portion 38 with its cover plate 60 removed, thus exposing an electronics control board (ECB) 58 inside the base portion. A series of electrical connector fittings (USB, etc.) are electrically connected to the ECB **58** for providing data or power. These electrical signals are passed, via wiring, or a wiring harness, up through the body of the pedestal 14, which is hollow. The position of the wiring is schematically indicated by dashed

Referring to FIG. 10, the pedestal 14 has openings 64, 66 that enable the wiring to pass through the head space, and through the physical zone of rotational connections described above. This allows rotation without stressing the wiring. The wiring connects to a board 67 upon which the second adapter fitting 40 rests. The board 67 provides the wiring connections to the fitting 40.

Finally, the frame portion 12 could be releasably locked to the pedestal portion via a RFID lock if desired. The ECB **58** in the base portion has surface space for a RFID sensor 70 that could detect a wireless keycard, if desired. The sensor would activate locks on the head portion, upon detection of the keycard.

It is to be appreciated that the foregoing description sets described. As is shown in FIG. 5, it has an opening 30 for 35 forth the best known examples and embodiments. It is not intended that any of the foregoing description be used to limit the scope of the patent protection. Instead, all patent protection is to be defined solely by the patent claim or claims that follow this description, the interpretation of which is to be made according to the legal rules of patent claim interpretation and the rules and regulations of the U.S. Patent and Trademark Office.

What is claimed is:

55

- 1. A docking station for a tablet device, the docking station comprising:
 - a frame assembly for retaining the tablet device, the frame assembly including a frame adapter and a first electrical connection, the frame adapter being electrically connectable to the tablet device via the first electrical connection;
 - a pedestal assembly including a head portion and a base portion, the head portion being connected to the base portion, the head portion including a pedestal adapter and a second electrical connection, the pedestal adapter being electrically connectable to a power source via the second electrical connection, the pedestal adapter being releasably connectable to the frame adapter;
 - the pedestal adapter and the frame adapter being configured such that the pedestal assembly and the frame assembly are electrically connected whenever the pedestal adapter is connected to the frame adapter, the pedestal adapter and the frame adapter being configured such that the pedestal assembly is electrically unconnected to the frame assembly whenever the pedestal adapter is not connected to the frame adapter;
 - the frame assembly being positionable relative to the base portion of the pedestal assembly in a landscape orien-

tation and in a rotated orientation, the rotated orientation being different from the landscape orientation, the pedestal assembly and the frame assembly being configured such that the pedestal adapter and the frame adapter are connected to each other when the frame assembly is in the landscape orientation, the pedestal assembly and the frame assembly being configured such that the pedestal adapter and the frame adapter are connected to each other when the frame assembly is in the rotated orientation, the frame assembly being electrically connected to the pedestal assembly when the frame assembly is in the landscape orientation, the frame assembly being electrically connected to the pedestal assembly is in the rotated orientation.

- 2. The docking station as set forth in claim 1 wherein the docking station further comprises a lock assembly moveable between a locked condition and an unlocked condition, the lock assembly being configured to lock the frame assembly to the pedestal assembly in the locked condition, the lock 20 assembly being configured to permit detachment of the frame assembly from the pedestal assembly when the lock assembly is in the unlocked condition.
- 3. The docking station as set forth in claim 1 wherein the frame adapter includes a first electrical interface and the 25 pedestal adapter includes a second electrical interface, the first electrical interface being configured to connect with the second electrical interface in a manner such that the pedestal assembly and the frame assembly are electrically connected when the pedestal adapter is connected to the frame adapter. 30
- 4. The docking station as set forth in claim 1 wherein the head portion of the pedestal assembly is configured to pivot about a horizontal axis to adjust a vertical position of the frame assembly when the pedestal adapter is connected to the frame adapter.
- 5. The docking station as set forth in claim 1 wherein the head portion further comprises a face, a head portion axis being generally normal to the face, the frame assembly being generally normal to the head portion axis when in the landscape orientation, the frame assembly being generally 40 normal to the head portion axis when in the rotated orientation.
- 6. A docking station for a tablet device, the docking station comprising:
 - a frame assembly for retaining the tablet device, the frame 45 assembly including a frame adapter, a first electrical connection and a first electrical interface, the first electrical interface being electrically connectable to the tablet device via the first electrical connection;
 - a pedestal assembly including a head portion and a base 50 portion, the head portion being connected to the base portion, the head portion including a pedestal adapter, a second electrical connection and a second electrical interface, the second electrical interface being electrically connectable to a power source via the second 55 electrical connection, the pedestal adapter being releasably connectable to the frame adapter;
 - the first electrical interface being electrically connected to the second electrical interface whenever the pedestal adapter is connected to the frame adapter, the first 60 electrical interface being electrically unconnected to the second electrical interface whenever the pedestal adapter is not connected to the frame adapter;
 - the frame assembly being positionable relative to the base portion of the pedestal assembly in a landscape orien- 65 tation and in a rotated orientation, the rotated orientation being different from the landscape orientation, the

6

pedestal assembly and the frame assembly being configured such that the pedestal adapter and the frame adapter are connected to each other when the frame assembly is in the landscape orientation, the pedestal assembly and the frame assembly being configured such that the pedestal adapter and the frame adapter are connected to each other when the frame assembly is in the rotated orientation, the frame assembly being electrically connected to the pedestal assembly when the frame assembly is in the landscape orientation, the frame assembly being electrically connected to the pedestal assembly when the frame assembly is in the rotated orientation.

- 7. The docking station as set forth in claim 6 wherein the docking station further comprises a lock assembly moveable between a locked condition and an unlocked condition, the lock assembly being configured to lock the frame assembly to the pedestal assembly in the locked condition, the lock assembly being configured to permit detachment of the frame assembly from the pedestal assembly when the lock assembly is in the unlocked condition.
 - 8. The docking station as set forth in claim 7 wherein the lock assembly comprises a sensor configured to receive a wireless signal, the lock assembly being configured to move from the locked condition to the unlocked condition upon the sensor receiving the wireless signal.
 - 9. The docking station as set forth in claim 8 wherein the sensor is configured to receive an RFID signal.
 - 10. The docking station as set forth in claim 6 wherein the first electrical interface is a first connector fitting and the second electrical interface is a second connector fitting.
 - 11. The docking station as set forth in claim 10 wherein the first connector fitting is a female connector fitting and the second connector fitting is a male connector fitting.
 - 12. The docking station as set forth in claim 6 wherein the first electrical connection includes a connector fitting, the connector fitting being connectable to the tablet device.
 - 13. The docking station as set forth in claim 12 wherein the frame assembly further includes a stem portion, the connector fitting being electrically connected to the frame adapter via the stem portion.
 - 14. The docking station as set forth in claim 6 wherein the first electrical interface forms a portion of the frame adapter and the second electrical interface forms a portion of the pedestal adapter.
 - 15. The docking station as set forth in claim 6 wherein the head portion further comprises a face, a head portion axis being generally normal to the face, the frame assembly being generally normal to the head portion axis when in the landscape orientation, the frame assembly being generally normal to the head portion axis when in the rotated orientation.
 - 16. A docking station for a tablet device, the docking station comprising:
 - a frame assembly for retaining the tablet device, the frame assembly including a frame adapter, a first electrical connection and a first electrical interface, the first electrical interface being electrically connectable to the tablet device via the first electrical connection;
 - a pedestal assembly including a head portion and a base portion, the head portion being connected to the base portion, the head portion including a pedestal adapter, a second electrical connection and a second electrical interface, the second electrical interface being electrically connectable to a power source via the second electrical connection, the pedestal adapter being releasably connectable to the frame adapter;

the first electrical interface being electrically connected to the second electrical interface whenever the pedestal adapter is connected to the frame adapter, the first electrical interface being electrically unconnected to the second electrical interface whenever the pedestal adapter is not connected to the frame adapter;

the head portion being configured such that the frame assembly is rotatable relative to the base portion of the pedestal assembly between a landscape orientation and a rotated orientation while the frame adapter is con- 10 portion. nected to the pedestal adapter, the rotated orientation being different from the landscape orientation, the pedestal assembly and the frame assembly being configured such that the pedestal adapter and the frame adapter are connected to each other when the frame 15 assembly is in the landscape orientation, the pedestal assembly and the frame assembly being configured such that the pedestal adapter and the frame adapter are connected to each other when the frame assembly is in the rotated orientation, the first electrical interface ²⁰ being electrically connected to the second electrical interface when the frame assembly is in the landscape orientation, the first electrical interface being electrically connected to the second electrical interface when the frame assembly is in the rotated orientation.

17. The docking station as set forth in claim 16 wherein the docking station further comprises a lock assembly moveable between a locked condition and an unlocked condition, the lock assembly being configured to lock the frame assembly to the pedestal assembly in the locked condition, the lock assembly being configured to permit the detachment of the frame assembly from the pedestal assembly when the lock assembly is in the unlocked condition.

18. The docking station as set forth in claim 17 wherein the lock assembly comprises a sensor configured to receive 35 a wireless signal, the lock assembly being configured to move from the locked condition to the unlocked condition upon the sensor receiving the wireless signal.

19. The docking station as set forth in claim 16 wherein the frame assembly further includes a front portion and a 40 back portion, the front portion being connectable to the back portion, the frame assembly being configured to sandwich the tablet device between the front portion and the back portion when the front portion is connected to the back portion.

8

20. The docking station as set forth in claim 19 wherein the frame adapter is connected to the back portion.

21. The docking station as set forth in claim 16 wherein the head portion of the pedestal assembly further includes a protrusion, the frame adapter of the frame assembly being configured to engage the protrusion when the frame adapter is connected to the pedestal adapter.

22. The docking station as set forth in claim 16 wherein the base portion of the pedestal assembly includes a hollow portion.

23. The docking station as set forth in claim 22 wherein the second electrical connection includes a cable, the cable extending through the hollow portion.

24. The docking station as set forth in claim 16 wherein the first electrical connection includes a connector fitting, the connector fitting being connectable to the tablet device.

25. The docking station as set forth in claim 24 wherein the frame assembly further includes a stem portion, the connector fitting being electrically connected to the frame adapter via the stem portion.

26. The docking station as set forth in claim 16 wherein the first electrical interface is a first connector fitting and the second electrical interface is a second connector fitting, the second connector fitting being connectable to the first connector fitting.

27. The docking station as set forth in claim 26 wherein the first connector fitting is a female connector fitting and the second connector fitting is a male connector fitting, the male connector fitting being insertable into the female connector fitting.

28. The docking station as set forth in claim 16 wherein the rotated orientation is a portrait orientation.

29. The docking station as set forth in claim 16 wherein the head portion of the pedestal assembly is configured to pivot about a horizontal axis to adjust a vertical position of the frame assembly when the pedestal adapter is connected to the frame adapter.

30. The docking station as set forth in claim 16 wherein the frame assembly further includes a front portion connectable to a back portion, the frame assembly being configured such that the front portion and the back portion collectively surround the tablet device when the front portion is connected to the back portion, the frame adapter being connected to the back portion.

* * * *